

# Python: module `esg.esgParse`

## `esg.esgParse`

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ESG markup parsing. See <http://www.earthsystemgrid.org>

### Modules

[esg.esg](#)

[xml.sax.saxutils](#)

### Classes

[xml.sax. exceptions.SAXParseException](#)  
[ESGParseException](#)  
[xml.sax.handler.ContentHandler](#)  
[esgContentHandler](#)  
[xml.sax.handler.ErrorHandler](#)  
[esgErrorHandler](#)

class ***ESGParseException***([xml.sax. exceptions.SAXParseException](#))

Method resolution order:

[ESGParseException](#)  
[xml.sax. exceptions.SAXParseException](#)  
[xml.sax. exceptions.SAXException](#)  
[exceptions.Exception](#)

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Methods defined here:

***\_\_str\_\_(self)***  
Create a string representation of the exception.

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Methods inherited from [xml.sax. exceptions.SAXParseException](#):

***\_\_init\_\_(self, msg, exception, locator)***  
Creates the exception. The exception parameter is allowed to

***getColumnNumber(self)***

The column number of the end of the text where the exception occurred.

***getLineNumber(self)***

The line number of the end of the text where the exception oc

***getPublicId*(self)**  
Get the public identifier of the entity where the exception occurred.

***getSystemId*(self)**  
Get the system identifier of the entity where the exception occurred.

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Methods inherited from [xml.sax.exceptions.SAXException](#):

***\_\_getitem\_\_*(self, ix)**  
Avoids weird error messages if someone does exception[ix] by mistake, since Exception has *\_\_getitem\_\_* defined.

***getException*(self)**  
Return the embedded exception, or None if there was none.

***getMessage*(self)**  
Return a message for this exception.

class ***esgContentHandler***([xml.sax.handler.ContentHandler](#))

Handle ESG content. An instance of this class is associated with the parser using `setContentHandler()`.

Methods defined here:

***\_\_init\_\_*(self)**

***characters*(self, ch)**

***endActivity*(self)**

***endAnalysis*(self)**

***endCampaign*(self)**

***endContact*(self)**

***endDataset*(self)**

***endDate*(self)**

***endElement*(self, name)**

***endElementNS*(self, name, qname)**

***endEnsemble*(self)**

***endExperiment*(self)**

***endFile*(self)**

*endInstitution*(self)  
*endObservation*(self)  
*endParameter*(self)  
*endParameterList*(self)  
*endPerson*(self)  
*endProject*(self)  
*endQualified*(self, arg)  
*endReference*(self)  
*endService*(self)  
*endSimulation*(self)  
*endString*(self, arg)  
*endhasChild*(self)  
*endhasParent*(self)  
*endmapping*(self)  
*endmetadata*(self)  
*endsimulationInput*(self)  
*peek*(self)  
*pop*(self)  
*push*(self, item)  
*setDocumentLocator*(self, locator)  
*startActivity*(self, attrs, clas)  
*startAnalysis*(self, attrs)  
*startCampaign*(self, attrs)  
*startContact*(self, attrs)  
*startDataset*(self, attrs)  
*startDate*(self, attrs)

*startElement*(self, name, attrs)  
*startElementNS*(self, name, qname, attrs)  
*startEnsemble*(self, attrs)  
*startExperiment*(self, attrs)  
*startFile*(self, attrs)  
*startInstitution*(self, attrs)  
*startObjRef*(self, attrs, arg)  
*startObservation*(self, attrs)  
*startParameter*(self, attrs)  
*startParameterList*(self, attrs)  
*startParticipant*(self, attrs)  
*startPerson*(self, attrs)  
*startProject*(self, attrs)  
*startQualified*(self, attrs, arg)  
*startReference*(self, attrs)  
*startService*(self, attrs)  
*startSimulation*(self, attrs)  
*startString*(self, attrs, arg)  
*startformat*(self, attrs)  
*starthasChild*(self, attrs)  
    # Ignore these for now.  
*starthasParameter*(self, attrs)  
*starthasParameters*(self, attrs)  
*starthasParent*(self, attrs)  
*startmapping*(self, attrs)  
*startmetadata*(self, attrs)  
*startsimulationInput*(self, attrs)

***startspaceCoverage(self, attrs)***

***starttimeCoverage(self, attrs)***

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Methods inherited from [xml.sax.handler.ContentHandler](#):

***endDocument(self)***

Receive notification of the end of a document.

The SAX parser will invoke this method only once, and it will be the last method invoked during the parse. The parser shall not invoke this method until it has either abandoned parsing (because of an unrecoverable error) or reached the end of input.

***endPrefixMapping(self, prefix)***

End the scope of a prefix-URI mapping.

See `startPrefixMapping` for details. This event will always occur after the corresponding `endElement` event, but the order of `endPrefixMapping` events is not otherwise guaranteed.

***ignorableWhitespace(self, whitespace)***

Receive notification of ignorable whitespace in element content.

Validating Parsers must use this method to report each chunk of ignorable whitespace (see the W3C XML 1.0 recommendation, section 2.10): non-validating parsers may also use this method if they are capable of parsing and using content models.

SAX parsers may return all contiguous whitespace in a single chunk, or they may split it into several chunks; however, all of the characters in any single event must come from the same external entity, so that the Locator provides useful information.

***processingInstruction(self, target, data)***

Receive notification of a processing instruction.

The Parser will invoke this method once for each processing instruction found: note that processing instructions may occur before or after the main document element.

A SAX parser should never report an XML declaration (XML 1.0, section 2.8) or a text declaration (XML 1.0, section 4.3.1) using this method.

***skippedEntity(self, name)***

Receive notification of a skipped entity.

The Parser will invoke this method once for each entity skipped. Non-validating processors may skip entities if they

have not seen the declarations (because, for example, the entity was declared in an external DTD subset). All processor may skip external entities, depending on the values of the <http://xml.org/sax/features/external-general-entities> and the <http://xml.org/sax/features/external-parameter-entities> properties.

***startDocument(self)***

Receive notification of the beginning of a document.

The SAX parser will invoke this method only once, before any other methods in this interface or in DTDHandler (except for setDocumentLocator).

***startPrefixMapping(self, prefix, uri)***

Begin the scope of a prefix-URI Namespace mapping.

The information from this event is not necessary for normal Namespace processing: the SAX XML reader will automatically replace prefixes for element and attribute names when the <http://xml.org/sax/features/namespaces> feature is true (the default).

There are cases, however, when applications need to use prefixes in character data or in attribute values, where they cannot safely be expanded automatically; the start/endPrefixMapping event supplies the information to the application to expand prefixes in those contexts itself, if necessary.

Note that start/endPrefixMapping events are not guaranteed to be properly nested relative to each-other: all startPrefixMapping events will occur before the corresponding startElement event, and all endPrefixMapping events will occur after the corresponding endElement event, but their order is not guaranteed.

**class *esgErrorHandler*([xml.sax.handler.ErrorHandler](#))**

Handle an ESG parsing error. An object of this type is associated with the parser using `setErrorHandler()`.

Methods defined here:

***\_\_init\_\_(self)***

***fatalError(self, exception)***

***printErrorLine(self, path, linenum)***

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Methods inherited from [xml.sax.handler.ErrorHandler](#):

***error***(self, exception)  
Handle a recoverable error.

***warning***(self, exception)  
Handle a warning.

## ***Functions***

***load***(path)  
Create a tree of ESG nodes from a file path.  
Returns the parse tree root node.

## ***Data***

***feature\_namespaces*** = 'http://xml.org/sax/features/namespaces'